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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,870	09/22/2003	Francesco Coppola	TI-34641	1168
23494	7590	09/29/2006		
TEXAS INSTRUMENTS INCORPORATED				EXAMINER
P O BOX 655474, M/S 3999				CHANG, JOSEPH
DALLAS, TX 75265				ART UNIT
				PAPER NUMBER
				2817

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/667,870	COPPOLA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joseph Chang	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 June 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____.                                     |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____.                         |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. in view of Jansson for reasons of record.

### **Response to Arguments**

Applicant's arguments filed 6/28/06 have been fully considered but they are not persuasive.

Regarding applicant comments directed to the rejection of claims 1-12 under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. in view of Jansson, Applicant argues "the Nelson reference does not provide any teaching of testing at the initial control word to determine whether it should be used to generate the first clock signal at the new desired frequency, or if the initial control word should be changed to an adjacent control word to generate the first clock signal to generate the first clock signal at the new desired frequency. On the contrary, Nelson explicitly states in paragraph [0024] that :

By purposefully selecting VCO center frequency control signals, L, state machine 32 may identify the two VCO operating curves that have center frequencies just above and just below the frequency of the input signal R. Either one of these two operating curves may be selected for use during normal PLL operations.

Accordingly, no testing is done after the initial search, and there is no determination made as to whether a control word adjacent to the initial control word would be better for generating the first clock signal at the new desired frequency."

These arguments are not persuasive because the paragraph [0024] further states, "state machine 32 performs a linear search algorithm in which the values of the center frequency control value L are selected .... In an alternative embodiment of the invention, during step 58, a binary search algorithm is performed" For clarification, the calibration is described in the supporting document US Pat. No. 5,942,949 as stated in paragraph [0020]. As described in Column 3, line 55 - Column 4, line 59 of US Pat. No. 5,942,949, state machine 316 performs a linear search algorithm or a binary search algorithm and further states that "each digital control input value N needs to be maintained to test each of the VCO operating curves in the search sequence".

As for the argument regarding claim 3 "containing no teaching of testing at the endpoints of the curves, or anywhere else on the curves", it is noted that the "Max and Min" in paragraph [0018] refer to endpoints of the curves. For clarification, the supporting document US Pat. No. 5,942,949 described in Column 4, lines 3-12 the calibration for Max and Min as a result of driving Vlf to the positive and negative supply rails, i.e. VDD and Ground.

As for the argument regarding claim 4 "There is no teaching that SW1 is used during a test mode to determine whether the control word providing the preferred operating curves", it is noted that the scope of the claim has no distinction as to test mode or normal mode.

As for the argument regarding claim 5 “This paragraph ([0018]) has no such teaching and, in fact, comes before calibrating the VCO is even discussed in Nelson”, it is not persuasive because whether the paragraph comes before calibrating the VCO, Nelson discloses the initial control word (L) is within a predetermined threshold (Max and Min).

***Conclusion***

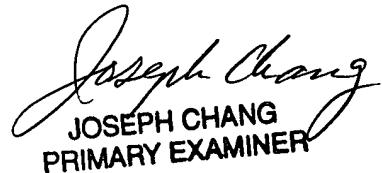
**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JOSEPH CHANG  
PRIMARY EXAMINER

A handwritten signature of "Joseph Chang" is written in cursive ink above the printed title "JOSEPH CHANG" and the word "PRIMARY EXAMINER".